

# Work Order ID 87019

**\*87019\***

Page 1

Monday, July 09, 2012 4:04:48 PM

Item ID: D117-762-041

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Replacement Skidtube

Start Date: 7/10/2012 Start Qty: 1.00 **\*1\***

Cust Item ID:

Required Date: 7/24/2012 Req'd Qty: 1.00 **\*1\***

Customer:

Reference:

Approvals: Process Plan: *MLJ*

Date: *12/07/10* Tooling:

Date:

Run Start **\*NR1\***

QC:

Date: SPC (Y/N):

Date:

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr Revision Nbr

D3492

C

D3582

Rev A

100

0.00

**\*100\***

DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy bluefile & type labels per PPP D117-762-041 CHG001

*N/A*

120

0.00

**\*120\***

BENDING MACHINE - SKIDTUBES

CNC Bend I

Memo

0.00

CNC Delta 100 Bender

Bend tube as per program D3582 on CNC Bender and Dwg D3582. Folio 3,  
use bending aid DT9632  
2- cut fwd end of tube as per dwg

*DC 12/07/31*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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**NOTE:** Date & initial all entries

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Revision ID:

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Start Date: 7/10/2012 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 7/24/2012 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start **\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop **\*NR2\***Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

130

0.00

**\*130\***

Skidtubes

0.00

Skidtubes

Memo

1-Cut Aft end using DT8185

2-Deburr ends

3-Drill Aft Cap holes using DT8678 \*\*\* OPEN AFT CAP HOLE TO .187" \*\*\*

4-Locate DT 8973 from aft cap holes &amp; Drill Ground wire hole on top of Tube.

5-Install 3/16 cleco in Ground wire hole ,then drill all X-Bolt holes using 3/16" drill.

6-Drill pilot holes for wearplates using DT8900

7-Open wearplate holes to Ø19/64" (0.297") as per Dwg D3582.

8- open ground wear holes to 0.391" as per section B-B

9-Open Aft Cap holes using .209" drill.

10-Drill pilot holes for section D-D and E-E. Holes must be laid out by hand. Mark out Center line and make sure that 6.65 and 5.906 measurements are respected. Double check before drilling, do not open holes to finish size.

BE 12/08/01

# Dart Aerospace Ltd

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Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start **\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop **\*NR2\***

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

140

0.00

**\*140\***

Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1-Weld fwd cap D2964 per dwg D3582 and QSI 004  
A/R AL ROD Batch: M122324  
2-Grind flush

*3 BE 12/08/02*

150

QC10- Inspect visual per QSI004- ground welds

0.00

**\*150\***

QC

Memo

0.00

Quality Control

*(DAS 16 8-59 17/02/03)*

160

QC5- Inspect part completeness to step on W/O

0.00

**\*160\***

QC

Memo

0.00

Quality Control

*(DAS 16 8-59 2/06/03)*

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
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**\*1\***

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start **\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop **\*NR2\***Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

170

Chemical Conversion Coat per QSI005 4.1

0.00

**\*170\***

HandFinish

Memo

0.00

Hand Finishing

1

76

12-8-7

180

QC3- Inspect Part Finish

0.00

**\*180\***

QC

Memo

0.00

Quality Control

1

0

12-8-7

DAS  
18  
8-8

W/O:		WORK ORDER CHANGES					
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\*1\*

Cust Item ID:

Required Date: 7/24/2012 Req'd Qty: 1.00

\*1\*

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start \*NR1\*

QC:

Date:

SPC (Y/N):

Date:

Stop \*NR2\*

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

190

0.00

\*190\*

Skidtubes

0.00

Skidtubes

Skidtubes

Memo

1-Open X-Bolt holes to finish size as per Dwg D3582, all sections

2-Counter Sink X-BOLT holes as per Dwg D3582

3-Deburr and blow out chips from inside of tube, prep. tube for welding.

4-Bond web as per Dwg D3582 & QSI 015

A/R 241 Sike Flex Batch: 122443

Exp Date: 13/03/14

5-Weld x-bolt spacers(D2973) as per Dwg D3582 section B-B.

A/R AL ROD Batch: 11122324

6-Grind welds flush

JB

12/08/28

BE 12/08/28

12/08/23

200

QC10- Inspect visual per QSI004- ground welds

0.00

\*200\*

QC

Memo

0.00

Quality Control

DAS  
16  
2-83

11/09/20

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Required Date: 7/24/2012 Req'd Qty: 1.00 \*1\*

Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date:  
QC: Date: SPC (Y/N):

Run Start \*NR1\*  
Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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210	QC5- Inspect part completeness to step on W/O	0.00							
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\*210\*

QC	Memo	0.00							
----	------	------	--	--	--	--	--	--	--

Quality Control

215	Pressure Wash per QSI005 4.3	0.00							
-----	------------------------------	------	--	--	--	--	--	--	--

\*215\*

HandFinish	Memo	0.00							
------------	------	------	--	--	--	--	--	--	--

Hand Finishing

Touch-up alodine as per QSI

220	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
-----	--	------	--	--	--	--	--	--	--

\*220\*

Powdercoat	Memo	0.00							
------------	------	------	--	--	--	--	--	--	--

Powder Coating

START TIME 1:00  
OVEN TEMPERATURE: 320 °F  
FINISH TIME: 1:30

M121841

DAS 16 2-89 7/10/12

① 7/10/12 10:30

IXP M/L 12/08/30

# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Setup Start \*NS1\*

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Item Name: Replacement Skidtube

Stop \*NS2\*

Start Date: 7/10/2012 Start Qty: 1.00

\*1\*

Cust Item ID:

Required Date: 7/24/2012 Req'd Qty: 1.00

\*1\*

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start \*NR1\*

QC:

Date:

SPC (Y/N):

Date:

Stop \*NR2\*

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

230

QC3- Inspect Part Finish

0.00

\*230\*

QC

Memo

0.00

Quality Control

1x 1 11 08 130

250

HandFinishing

0.00

\*250\*

HandFinish

Memo

0.00

Hand Finishing

1-Inspect for Foreign objects

2-Install Aft cap as per Dwg D3582, Detail "C"

A/R 241 Sika Flex Batch: M122443

Exp Date: 13103

3-Install Wearplates as per Dwg D3582,

Note: Install Bolt and washer on Ground Wire inserts on top of tube see section D-D of dwg D3582

\*\*\*\*\*Do not install bolts where indicated on Dwg(Note #6)\*\*\*\*\*

A/R 241 Sika Flex Batch: M122443

Exp Date: 12105

4-assemble o'ring as per dwg D3492 and apply o'ring lube

A/R 55-o'ring lube batch: 21121651

5- Wing Walk as per Dwg D3582 and QSI 005 4.4

1x 1 11 08 131

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Start Date: 7/10/2012 Start Qty: 1.00 \*1\*

Cust Item ID:

Required Date: 7/24/2012 Req'd Qty: 1.00 \*1\*

Customer:

Reference:

Approvals: Process Plan: Date:

Tooling: Date:

Run Start \*NR1\*

QC: Date:

SPC (Y/N): Date:

Stop \*NR2\*

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID Tool # Plan  
Code Accept Reject Reject Insp.  
Qty Qty Number Stamp

260

QC5- Inspect part completeness to step on W/O

0.00

\*260\*

QC

Memo

0.00

Quality Control

270

Packaging

0.00

\*270\*

Packaging

Memo

0.00

Packaging

Identify and pack for shipping as per PPP D117-762-041

Location:

PPP Rev: *PPP 87016*

280

QC21- Final Inspection - Work Order Release

0.00

\*280\*

QC

Memo

0.00

Quality Control

*Pass 12/13*  
*12/9/14*  
*ME*  
*12-09-13*

**Dart Aerospace Ltd**

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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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# Picklist Print

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Page 1

Work Order ID: 87019

Parent Item: D117-762-041

Parent Item Name: Replacement Skidtube

Start Date: 7/10/2012

Required Date: 7/24/2012

Start Qty: 1.00

Required Qty: 1.00

**Comments:**

IPP Rev:A07.06.11New Issue EC

IPP Rev:B 08-02-22 change to revA as per dwg DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3492-11 Plug		Manufactured	No			250	Each	30.0000	2	2		11/08/30	

Location	Loc Qty	Loc Code
FP002	10	
71863	2	
74732	8	
FP-A	20	
82253	20	

D3492-13 Plug		Manufactured	No			250	Each	38.0000	6	6		11/08/30	
------------------	--	--------------	----	--	--	-----	------	---------	---	---	--	----------	--

Location	Loc Qty	Loc Code
FP001	20	
83518	20	
FP-A	18	
80322	18	

D3492-9 Plug		Manufactured	No			250	Each	38.0000	2	2		11/08/30	
-----------------	--	--------------	----	--	--	-----	------	---------	---	---	--	----------	--

Location	Loc Qty	Loc Code
FP002	1	
46694	1	
FP-A	37	
80323	17	
82251	20	

D2962-150 3.540 Outer Tube, Extrut		Manufactured	No				Each	28.0000				12/07/31	
---------------------------------------	--	--------------	----	--	--	--	------	---------	--	--	--	----------	--

Location	Loc Qty	Loc Code
HALL	28	
59934	28	

W/O:		WORK ORDER CHANGES					
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Start Date: 7/10/2012

Required Date: 7/24/2012

Start Qty: 1.00

Required Qty: 1.00

D2964 Manufactured No 140 Each 29.0000 1 1

Cap

BE 12/08/22

Location	Loc Qty	Loc Code
LG	12	
83064	12	
LG002	17	
74719	17	

D2971 Manufactured No 190 Each 22.0000 1 1

Cross Bolt Spacer

BE 12/08/28

Location	Loc Qty	Loc Code
LG001	22	
74720	22	

886730

D3584-1 Manufactured No 190 Each 4.0000 1 1

Web

DE 12/08/23

Location	Loc Qty	Loc Code
LG	4	
80849	4	

D2973 Manufactured No 190 Each 64.0000 2 2

Cross Bolt Spacer

BE 12/08/28

Location	Loc Qty	Loc Code
LG002	64	
14636	14	
80092	50	

D3662-3 Manufactured No 190 Each 57.0000 1 1

Crossbolt Spacer

BE 12/08/28

Location	Loc Qty	Loc Code
LG	57	
81606	57	

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# Dart Aerospace Ltd

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Start Date: 7/10/2012

Required Date: 7/24/2012

Start Qty: 1.00

Required Qty: 1.00

D3662-1  
Crossbolt Spacer

Manufactured No

190 Each 63.0000 3 3

BE 12/08/28

Location	Loc Qty	Loc Code
LG	61	
81607	61	
LG001	2	
71799	1	
71857	1	

3

ALS4-1032-130  
Insert

Purchased No

Each 1,209.0000

M 36 12/08/30

Location	Loc Qty	Loc Code
ST280	205	
119084	116	
120671	89	
ST281	44	
120807	36	
120837	8	
ST282	960	
121269	960	

M 122474

x36

ALS4-428-165  
Inserts

Purchased No

Each 437.0000

M<sup>2</sup> 12/08/30

Location	Loc Qty	Loc Code
FP002	437	
114172	18	
117769	419	

x2

D2965  
Cap, 105 Skidtube

Manufactured No

250 Each 44.0000

M 1 12/08/30

Location	Loc Qty	Loc Code
FP002	44	
71371	4	
80089	40	

x1

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**Dart Aerospace Ltd**

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Parent Item: D117-762-041

Parent Item Name: Replacement Skidtube

Start Date: 7/10/2012

Required Date: 7/24/2012

Start Qty: 1.00

Required Qty: 1.00

D3508-3	Manufactured	No	250	Each	6.0000	1	1	12/08/30
Wearplate								
		<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>				
		FP001	6					
		38527	1					
		81347	5					
D3508-9	Manufactured	No	250	Each	10.0000	1	1	12/08/30
Wearplate								
		<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>				
		FP001	10					
		81346	10					
D3558-3	Manufactured	No	250	Each	6.0000	1	1	12/08/30
Gasket								
		<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>				
		FP	5					
		82312	5					
		FP002	1					
		71651	1					
D3558-9	Manufactured	No	250	Each	8.0000	1	1	12/08/30
Gasket								
		<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>				
		FP002	8					
		80340	8					
D3558-11	Manufactured	No	250	Each	9.0000	1	1	12/08/30
Gasket								
		<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>				
		FP002	9					
		80339	9					

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Page 4

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

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Page 5

Work Order ID: 87019

Parent Item: D117-762-041

Parent Item Name: Replacement Skidtube

Start Date: 7/10/2012

Required Date: 7/24/2012

Start Qty: 1.00

Required Qty: 1.00

D3558-13 Manufactured No 250 Each 40.0000  
Gasket

1 u 1 11/08/30

Location	Loc Qty	Loc Code
FP	12	
<u>82320</u>	12	
FP002	28	
59558	1	
82380	27	

v1

D3508-11 Manufactured No 250 Each 24.0000  
Wearplate

1 u 1 11/08/30

Location	Loc Qty	Loc Code
FP001	24	
<u>81345</u>	12	
81349	12	

x1

D3508-13 Manufactured No 250 Each 15.0000  
Wearplate

1 u 1 11/08/30

Location	Loc Qty	Loc Code
FP001	3	
<u>71794</u>	3	
FP002	12	
81348	12	

v1

AN960JD10L NAS1149D0332J Purchased No 250 Each 0.0000  
Washer

M121708

2 (x2) u 2 11/08/30

AN3C4A Purchased No 250 Each 3,858.0000  
BOLT

28 u 28 11/08/30

Location	Loc Qty	Loc Code
ST350	3858	
120187	31	
120521	28	
120769	38	
121205	67	
121556	8	
<u>122151</u>	3686	

x28

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Page 5

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

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Page 6

Work Order ID: 87019

Parent Item: D117-762-041

Parent Item Name: Replacement Skidtube

Start Date: 7/10/2012

Required Date: 7/24/2012

Start Qty: 1.00

Required Qty: 1.00

AN3C5A Purchased No 250 Each 1,611.0000 2 11 2 1108130

Bolt

Location	Loc Qty	Loc Code
FP001	7	
115835	7	
ST350	1604	
116419	28	
117343	13	
117764	7	
117872	2	
119749	23	
120423	28	
121255	469	
121444	34	
121708	500	
122141	500	

AN960JD416L \* NAS1149D0416J Purchased No 250 Each 6.0000 2 (x2) 2 1108130

Washer

Location	Loc Qty	Loc Code
FP002	6	
110153	6	

AN960C10L \* NAS1149C0332R Purchased No 250 Each 21.0000 28 (x28) 28 1108130

washer

Location	Loc Qty	Loc Code
ST	21	
107534	21	

AN4-4A Purchased No 250 Each 50.0000 2 (x2) 2 1108130

Bolt

Location	Loc Qty	Loc Code
FP001	6	
114615	6	
ST355	44	
120187	31	
121285	13	

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Page 6

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

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Page 7

Work Order ID: 87019

Parent Item: D117-762-041

Parent Item Name: Replacement Skidtube

Start Date: 7/10/2012

Required Date: 7/24/2012

Start Qty: 1.00

Required Qty: 1.00

NAS1611-012

Purchased

No

250

Each

126.0000

O-RING

6 ul 6 11/08/13

## Location

## Loc Qty

## Loc Code

FP

14

120820

14

X 6

FP001

112

113845

10

118384

2

121259

100

NAS1611-015

Purchased

No

250

Each

103.0000

O-RING

2 ul 2 11/08/13

## Location

## Loc Qty

## Loc Code

FP001

103

115101

85

116081

18

X 2

NAS1611-016

Purchased

No

250

Each

56.0000

O-RING

2 ul 2 11/08/13

## Location

## Loc Qty

## Loc Code

FP001

56

112492

42

113524

14

X 2

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Page 7

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

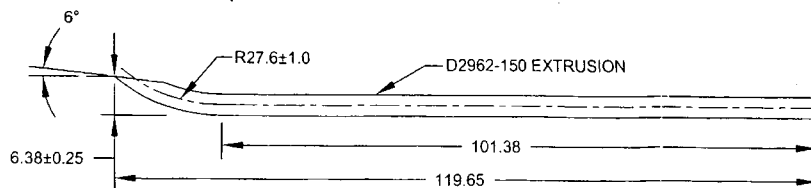
**NOTE:** Date & initial all entries

# PARTS LIST FOR D3582-041 SKIDTUBE ASSEMBLY

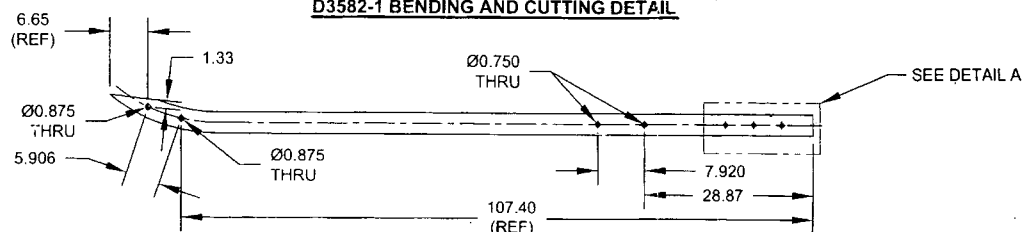
Qty	Part Number	Description
X	D3582-041	SKIDTUBE ASSEMBLY
1	D2962-150	EXTRUSION
1	D2964	CAP
1	D2965	CAP
1	D2971	CROSS BOLT SPACER
2	D2973	CROSS BOLT SPACER
2	D3492-049	PLUG ASSEMBLY
2	D3492-051	PLUG ASSEMBLY
6	D3492-053	PLUG ASSEMBLY
1	D3508-3	WEARPLATE
1	D3508-9	WEARPLATE
1	D3508-11	WEARPLATE
1	D3508-13	WEARPLATE
1	D3558-3	GASKET
1	D3558-9	GASKET
1	D3558-11	GASKET
1	D3558-13	GASKET
1	D3584-1	WEB
3	D3662-1	CROSS BOLT SPACER
1	D3662-3	CROSS BOLT SPACER
36	AELS-1032-130	INSERT
2	ALS7-428-165	INSERT
28	AN3C4A	BOLT
2	AN3-5A	BOLT
2	AN4-4A	BOLT
28	AN960C10L	WASHER
2	AN960JD10L	WASHER
2	AN960JD416L	WASHER

## GENERAL NOTES:

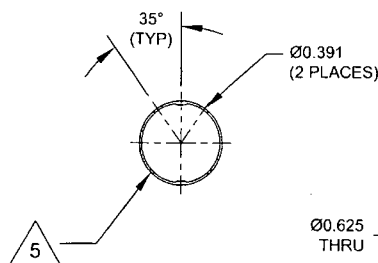
- ALL DIMENSIONS ARE IN INCHES
- TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- WELDING TO BE DONE PER DART QSI 004
- INSERT D3584-1 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/-291 ADHESIVE PER DART QSI 015 AFTER BENDING.
- USE DART DRILL TEMPLATE DT8900 TO LOCATE AND DRILL Ø0.297 HOLES (36 PLACES) FOR WEARSHOE INSERTS. INSTALL AELS-1032-130 PER SECTION G-G (36 PLACES) AFTER FINISH. SEAL WEARPLATE BOLTS WITH SIKAFLEX-241/-291.
- DO NOT INSTALL AN3C4A BOLTS AND AN960C10L WASHERS IN INDICATED LOCATIONS.
- FINISH:
  - CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSERTING D3584-1 WEB
  - POWDER COAT ASSEMBLY GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
  - ANTI-SKID PAINT AS INDICATED TO 1.00 ABOVE CENTER LINE PER DART QSI 005 4.4



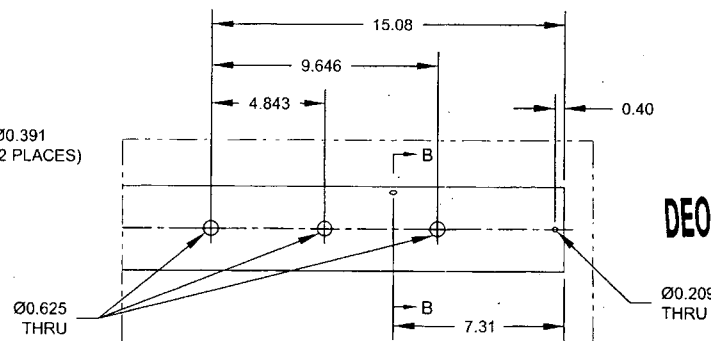
D3582-1 BENDING AND CUTTING DETAIL



D3582-1 DRILLING DETAIL



SECTION B-B  
SCALE 1:5



DETAIL A  
SCALE 1:5

DEO ATTACHED

RELEASED  
07.11.22

REV.	NEW ISSUE	DESCRIPTION	PH	07.06.08
DESIGN			BY	DATE
DRAWN	PH			
CHECKED	PH			
MFG. APPR.	PH			
APPROVED	PH			
DE APPR.	PH			
DATE	07.06.08			

**DART AEROSPACE USA, INC**  
PORT HADLOCK, WA  
DRAWING NO. D3582  
TITLE BK 117 SKIDTUBE ASSEMBLY  
REV. A  
SHEET 1 OF 2  
SCALE 1:20  
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



8 7 6 5 4 3 2 1

D2964 CAP  
(GRIND FLUSH)

**DETAIL C**  
SCALE 1:10

D2971 SPACER

AFTER FINISH  
INSTALL,  
D3492-049  
PLUG ASSEMBLY  
(2 PLACES)

**SECTION D-D**  
SCALE 3:10

AFTER FINISH  
INSTALL,  
D3492-051  
PLUG ASSEMBLY  
(2 PLACES)

**SECTION E-E**  
SCALE 3:10

D3662-3 SPACER

**SECTION D-D NOTES**

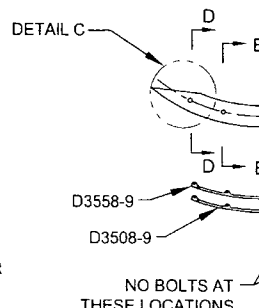
AFTER BENDING AND DRILLING ASSEMBLY  
PERFORM THE FOLLOWING:

1. CHAMFER HOLE 0.030 x 45°
2. INSERT D2971 SPACER
3. WELD INTO PLACE AND GRIND FLUSH
4. PASS Ø0.750 DRILL TO REMOVE SPILL OVER
5. AFTER FINISH, INSTALL D3492-049 PLUG ASSEMBLY (2 PLACES)

**SECTION E-E NOTES**

AFTER BENDING AND DRILLING ASSEMBLY  
PERFORM THE FOLLOWING:

1. CHAMFER HOLE 0.030 x 45°
2. INSERT D3662-3 SPACER
3. WELD INTO PLACE AND GRIND FLUSH
4. PASS Ø0.672 DRILL TO REMOVE SPILL OVER
5. AFTER FINISH, INSTALL D3492-051 PLUG ASSEMBLY (2 PLACES)



D3558-9  
D3508-9

D3558-3  
D3508-3

D3558-11  
D3508-11

DETAIL H

D3558-13  
D3508-13

NO BOLTS AT  
THESE LOCATIONS

**D3582-041 ASSEMBLY DETAIL**

BLACK ANTI-SKID

8.0

16.2

58.4

16.0

5.0

0.8

**D3582-041 BLACK ANTI-SKID DETAIL**

DEO ATTACHED

D2973 SPACER  
(2 PLACES)

**SECTION F-F**  
SCALE 3:10

**SECTION F-F NOTES**

AFTER BENDING AND DRILLING ASSEMBLY  
PERFORM THE FOLLOWING:

1. CHAMFER HOLE 0.030 x 45°
2. INSERT D2973 SPACER (2 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. PASS Ø0.625 DRILL TO REMOVE SPILL OVER

D3584-1 WEB (REF)

D3662-1 SPACER  
(3 PLACES)

AFTER FINISH, INSTALL  
AELS-1032-130  
INSERT (36 PLACES)

AN3C4A BOLT (1)  
AN960C10L WASHER (1)  
(28 PLACES)

**SECTION G-G**  
SCALE 3:10

**SECTION G-G NOTES**

AFTER BENDING AND DRILLING ASSEMBLY  
PERFORM THE FOLLOWING:

1. CHAMFER HOLE 0.030 x 45°
2. INSERT D3662-1 SPACER (3 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. PASS Ø0.515 DRILL TO REMOVE SPILL OVER
5. AFTER FINISH, INSTALL D3492-053 PLUG ASSEMBLY (6 PLACES)

AFTER FINISH, INSTALL  
ALS7-428-165 INSERT (1)  
AN4-4A BOLT (1)  
AN960JD416L WASHER (1)  
(2 PLACES)

AFTER FINISH  
INSTALL,  
D3492-053  
PLUG ASSEMBLY  
(6 PLACES)

D3584-1 WEB  
(REF)

SEAL WITH  
SIKAFLEX -241/-291

D2965 CAP

**DETAIL H**  
SCALE 1:5

RELEASED

DESIGN	PH	<b>DART AEROSPACE USA, INC</b>	
DRAWN	PH	PORT HADLOCK, WA	
CHECKED	PH	DRAWING NO.	REV. A
MFG. APPR.	PH	D3582	SHEET 2 OF 2
APPROVED	PH	TITLE	SCALE
DE APPR.	PH	BK 117 SKIDTUBE ASSEMBLY	1:20
DATE	07.06.08	<small>COPYRIGHT © 2007 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL. ANY DISCLOSURE OR REPRODUCTION OF THIS DOCUMENT IS PROHIBITED WITHOUT THE WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

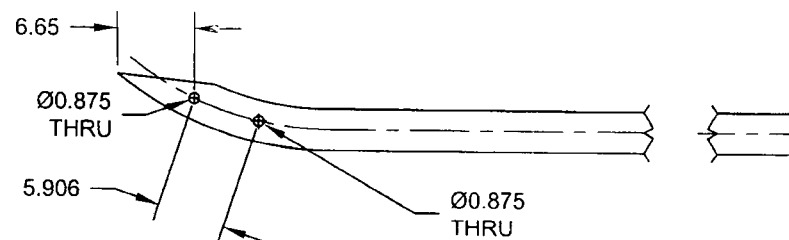
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

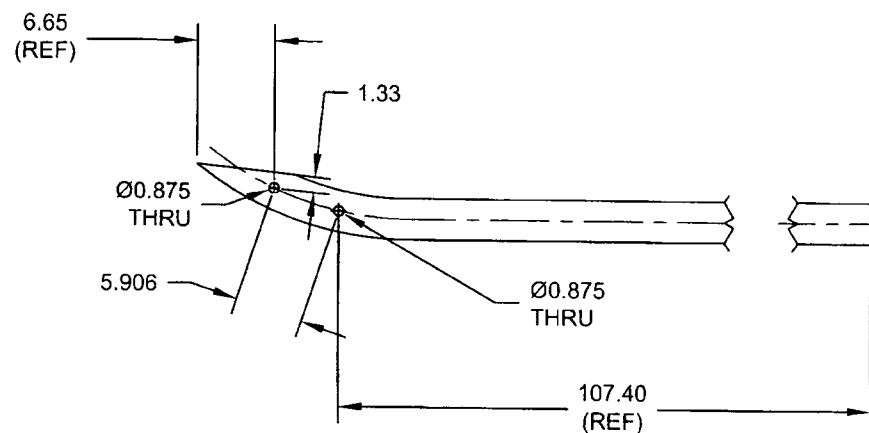
DRAWING NO. D3582	TITLE BK 117 SKIDTUBE ASSEMBLY	REV. A	DART AEROSPACE USA, INC ENGINEERING ORDER		D.E.O. NO. D3582-A-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>PH</i>	CHECKED <i>B</i>	MFG. APPR. <i>B</i>	APPROVED <i>WD</i>		DE APPR. <i>MA</i>		
DATE 09.04.06	DATE 04.04.06	DATE 09.04.06	DATE 09/04/06		DATE 09.04.06		

FOR EASE OF MANUFACTURE AND TO ENSURE THE FIT OF BRISTOL WIRESTRIKE SKID GEAR DEFLECTOR:  
UPDATE DIMENSIONING OF 2 FWD HOLES ON SHEET 1 AS SHOWN

IS:



WAS:



**RELEASED**  
09/04/22 *WD*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

NO. 302

AWS D17.1.2001  
QUALIFICATION TEST RECORD

Name: Barclay Elliott  
Job #: 87019  
Part #: D117-762-041  
Description: Skid tube  
Welding Process: Tig[☒] Mig[ ]  
Base material: Alum  
Current: AC[☒] DC[ ]

**TEST REQUIREMENTS AND RESULTS**

Visual:	pass[ <input checked="" type="checkbox"/> ]	fail[ ]
Incomplete Penetration:	pass[ <input checked="" type="checkbox"/> ]	fail[ ]
Incomplete Fusion:	pass[ <input checked="" type="checkbox"/> ]	fail[ ]
Cracks:	pass[ <input checked="" type="checkbox"/> ]	fail[ ]
Overlap (cold lap)	pass[ <input checked="" type="checkbox"/> ]	fail[ ]
Undercut:	pass[ <input checked="" type="checkbox"/> ]	fail[ ]
Pin holes:	pass[ <input checked="" type="checkbox"/> ]	fail[ ]
Porosity (surface):	pass[ <input checked="" type="checkbox"/> ]	fail[ ]
Coloration:	pass[ <input checked="" type="checkbox"/> ]	fail[ ]
Burn through:	pass[ <input checked="" type="checkbox"/> ]	fail[ ]

Qualifier David Secord Date of Test Coupon 12.08.29  
Welder Barclay Elliott Date of Test Coupon 12.08.29

The above named individual is qualified in accordance with AWS D17.1.2001 to weld